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EXPERIMENT 1.7

Testing for Simple Sugars

Simple sugars are part of the _____ group of nutrients. They are the basic unit that ultimately will be turned into _____ (a type of sugar) and then converted into _____ for storage in the body's cells.

Purpose

To investigate the presence of simple sugars in various food products.

Materials

Frying pan with lid
6 glasses
Water
6 food products (choose from grain products, milk products, and fruits or vegetables)
Benedict's Solution

Method

1. Use an electric frying pan as a hot water bath. To do this, fill the electric frying pan with about 1 cm of water. Place the lid on and warm the water. (Watch over the frying pan when it is in use.)
2. Place foods in separate glasses.
   - If the food is a liquid, pour enough to just cover the bottom of the glass.
   - If the food is a solid (e.g., banana, apple, potato chips), crush a small amount and add enough water to cover the bottom of the glass.
3. Add about 10 drops of Benedict's Solution to each glass.
4. Place the glasses in the hot water bath and note your observations.

Alternatively, this may be done using test tubes and a Bunsen burner to slowly heat the contents.

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TESTING FOR SIMPLE SUGARS, *continued*

Observations

Complete the chart below using the foods your group has compiled. The Benedict's Solution provides a test for the presence of simple sugars. If sugar is present, the Benedict's Solution will turn colour (shades of yellow, orange, brown).

Observations

Food Product	Description of Any Change(s) *Before* Heating	Description of Any Change(s) *After* Heating	Conclusion Are simple sugars present?
1.			
2.			
3.			
4.			
5.			
6.			

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TESTING FOR SIMPLE SUGARS EXPERIMENT, *continued*

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Questions

1. Why does some food need to be crushed?

2. Why do the colours intensify with the continued application of heat?

3. You probably have different kinds of simple sugars present in the foods you tested. For each of your foods used, determine what sugars are present. You may refer to *Food for Today, First Canadian Edition*, pages 231-32, for information about the different forms of sugars.

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